

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH
PROBLEMS OF PROGRESS IN INDUSTRY—4

WHAT THEY READ AND WHY

The Use of Technical Literature in
the Electrical and Electronics Industries

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PREFACE

The object of this series is to present briefly and simply the results of new research into the social, economic and technical problems of industrial progress—problems arising from automation and other advances in techniques, and problems of management and human relations. The booklets are either 'industrial versions' of academic reports that have been or soon will be published elsewhere; or short reviews of research done independently by several teams. The series is planned in the belief that responsible officials on both sides of industry feel the need to digest and use new research material but have not the time to browse through full-length volumes.

The series is commissioned and edited by the Department of Scientific and Industrial Research, which seeks only to provide a forum for responsible new thinking and to stimulate independent discussion and action, including further research. The conclusions and speculations are those of the investigators, mostly from the universities and other well-known research bodies.

This issue is based on a survey conducted for the Department by the Social Survey Division of the Central Office of Information in 1956. The full report, *The Use of Technical Literature by Industrial Technologists* by Christopher Scott and Leslie T. Wilkins, can be obtained from the Librarian, C.O.I. Social Survey, Montagu Mansions (Block 5), York Street, London, W.1, price £1 2s 6d. This short and selective summary is not a substitute for the full report, but an outline of the important findings. Many conclusions are omitted, as are many of the facts on which they are based and many detailed reservations that limit their applicability to other situations.

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Pen drawings by Peter Sachs

WHAT THIS BOOKLET IS ABOUT

If I have seen further than most men it is by standing on the shoulders of giants.

SIR ISAAC NEWTON

Newton had no doubt about the corporate nature of scientific and technical endeavour. Modern industry embodies knowledge and experience acquired over centuries of trial and error; and if every engineer had to start from 'square one' man would still be living in the Stone Age.

Thus, as the forward motion of technology accelerates, as technical competition between companies and nations grows stronger, as men become more aware of the world-wide problems which cry out for technical solutions, those who administer factories and laboratories are, or should be, giving closer attention to the means whereby the individual technologist keeps abreast of his subject. In a word, communications matter.

Since the invention of printing, the written word has been one of the major instruments for the dissemination of new knowledge. Today, the learned societies and publishing houses which produce periodicals dealing with current technical matters believe that they are performing a function vital to progress. Between them they produce, globally, tens of thousands of scientific journals containing millions of original articles or papers. Much devotion goes into their production. But rarely does anyone stop to ask the frank question, what good does it do?

In 1956 the Social Survey Division of the Central Office of Information conducted for the Department of Scientific and Industrial Research an inquiry into the use of technical literature by over one thousand *technologists* in the electrical and electronics industries.

The term *technologist* is used here to cover scientists, technologists and others in higher technical grades, engaged on either research work, or production supervision, or management. Just over half of the research workers, a third of the production supervisors, and two-fifths of the management group held academic or technical qualifications. They were selected by conventional sampling techniques from 127 establishments in the industries, each in the size range 200-1,000 employees.* They were seen individually by one of a team of interviewers, working from a set of carefully chosen questions.

* Larger establishments were deliberately excluded from the survey. Within the range chosen no association was found between reading habits and total number of employees.

The electrical and electronics industries were chosen because they are firmly based on modern science and engineering, consume a large amount of technical literature and should therefore yield *favourable* results. Yet the picture revealed is not a cheering one. The technologist, as defined here, makes little use of the up-to-date printed material which is available to him.

The evidence presented in the following pages sheds light on such questions as what role the literature plays in the technologist's work, how reading habits vary between individuals with different qualifications and different jobs, and just how extensive and intensive their reading is. It also gives partial answers to such questions as whether reading is a *good thing* and whether there are any impediments to a fuller use of the literature which are not the fault of the technologist himself.

In this kind of social inquiry the evidence is chiefly statistical, and for practical purposes the researchers have had to lump together all the *technologists* defined in a rather general way, or to break them up into certain broad divisions for the purposes of comparison. It is worth remembering that the figures refer to actual working technologists who gave up an hour or so to answer questions. They are men with important positions in two of Britain's most important industries—industries which give us turbo-alternators and refrigerators, computers and television. They are men with responsibilities and worries. One is trying to develop an incentive for indirect labour, another is doing research on infra-red detectors, a third is anxious about quality variations, yet another is developing the use of cast resins for high-voltage insulation. Some have to direct the intellectual efforts of large research teams, or are continually looking for better methods of producing good articles cheaply.

Has the technical literature something to offer them in the way of assistance? At first glance it has. The contributors to technical journals, the editors, and the librarians who collect their products all have views on the parts they play in communicating information. The philosophy behind the journals *Electronics* and *Nature* may be different, but their targets are much the same—men and women engaged in advancing human skill and knowledge. But it is necessary to put aside any pre-conceptions about what use technologists *ought* to make of the literature, to step into their shoes and see what importance they really attach to it.

WHY TECHNOLOGISTS READ

One of the main discoveries of the survey concerns the circumstances under which the technologists turn to the technical literature, and what they expect to find there.

Do technologists read to find something out? No.



The interviewers . . .

The interviewers put this broad question to each of the thousand-odd respondents:

'If you want information on a technical problem which you cannot solve from your memory or your usual standard references, what do you usually do first?'

Few of them (22 per cent) replied that they would make straight for the library or some other source of literature. The remainder would take a walk down the corridor, or pick up a telephone, or in some other way get hold of someone they thought would be able to answer their questions. Usually the informant would be someone within the firm; occasionally outside.

Under what circumstances do technologists consult the literature or the library? More than a third said that they would turn there for physical and chemical constants and for accounts of new scientific theories; more than half said that was where they would look for established scientific theories. On the other hand, 19-25 per cent did not answer these specific questions at all—they could not conceive that they would need such information anyway.

When they were asked about where they would go for information of a more everyday nature—such as descriptions of apparatus, methods or procedures—fewer favoured literature as a starting-point. This is a recurring theme in the findings of the survey: the less scientific a matter is, and the closer it comes to his normal work, the less the technologist apparently expects to learn about it from literature.

During his career, the technologist picks up useful facts and ideas from a great variety of sources. Nevertheless, in replying to another question, a remarkable number of the technologists (37 per cent) could not remember any occasion on which they had obtained useful knowledge from an article in a trade journal. The journals of the learned societies were given credit for help by only half the research workers questioned, and a quarter of the production supervisors.

To return to the main theme, why did so few technologists say they would consult the literature to solve a hypothetical problem of a specified kind? Is it because interviewers asked about the wrong sort of problem? If each technologist had been asked about the actual problem he was currently working on, would he have said that he consulted the literature more often? Again the answer is no.

To an outsider, it would seem that the logical way to begin a programme of investigation, or the first step in the solution of a technical problem, is to turn up the relevant literature to see if anyone else has tackled similar things before. Of the technologists interviewed 703 said they were engaged on a problem at the time they were questioned. The interviewers asked them what were the first and subsequent steps they took in tackling it.

Only a small number (12 per cent) said they began by consulting the literature on the subject. And once the investigation was under way, if they had not already consulted the literature it was unlikely that they ever would. Judging from the answer to the question

'What steps did you take today/yesterday?'

only 2 per cent of those who did anything about their problem in the 24 hours before the interview referred to the literature.

It is interesting to compare these answers with those given to questions as to where they would go for some hypothetical information. In the earlier answers far more (22 per cent) mentioned the literature or the library. The discrepancy may be due in part to the different wording of the questions, but it also suggests that the typical technologist

does not see his current problem as one involving a need for technical information.

For half the technologists the first step in dealing with a current problem was some kind of practical action; for the rest, a quarter of them would talk to somebody about it and a few 'thought about it'. In subsequent steps, naturally enough, the great majority of technologists were busy on some kind of practical work.

The next section shows how the reading habits of technologists vary according to the kind of work they do. However, it is worth noting here that a technologist is more likely to refer to literature as a first step if his problem involves long-term fundamental research in, say, electrical or mathematical matters (about 20 per cent). Only 6 per cent would consult it over a routine problem in production or administration. All the same, it is true that among all kinds of technologists the number who think that literature has any immediate part to play in their work is very small.

Why then do they read at all? The answer is—for ideas and stimulation.

'Can you say by what means you get most of your ideas or stimulation for new ideas or improvements, or for new methods?'

In reply to this question, written material comes out more favourably than in the answers to the questions above; 60 per cent of the technologists mentioned it. To be sure, written material includes, for example, advertisements in the popular press; but other evidence in the survey makes it clear that to the majority of the respondents it meant the scientific, technical or trade press.

More than one means could be mentioned in replies to this question. Nevertheless, a number of individuals (12 per cent) admitted to no external source of ideas or stimulation, but claimed to rely on intuition or 'thought'—and it is interesting to compare this with the somewhat humbler attitude of Sir Isaac Newton expressed on page 4. Discounting these individuals, it is clear that for the remainder written material is very important indeed as a source of ideas or stimulation. In fact, the results of the inquiry as a whole make better sense if this is recognised to be the role played by technical literature in the technologist's life.

Even abstracts, which have been devised to make it easier for him to find specific information in the literature, are, if anything, a

source of news more than of information to help him solve his problem. Those who said they used abstracts were asked:

'Do you use these for searches or for news of current developments?'

Not many (21 per cent) used them wholly or mainly for searches. Twice as many used them wholly or mainly for news and the remainder for both—about equally.

Furthermore, technologists do most of their reading at home. This should be a fact of some importance to a contributor to a technical journal who is trying to visualize the circumstances in which his article will be read.

'Where do you do most of your technical reading?'

	per cent
At home	59
At place of work	27
Either of the above	6
Library	3
Trains	2
Others	1
Do no technical reading	2
	<hr/>
	100

Technologists take up a journal more often at work than at home, but they read more at home, where children, television, domestic chores and so on must often be distracting, to say the least. Indeed, very little reading is done in the 'ideal' conditions of the library or reading-room, where concentration is presumably at its highest level.



... but they read more at home ...

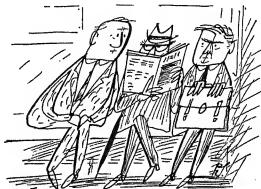
From what source does the technologist get the journals he sees regularly? This too has some bearing on the attention which he gives to them. Most (62 per cent) of all the journals that reach him arrive on a circulation list—that is to say, he has to look at them and pass them on. Only 20 per cent are bought as personal copies, either directly or by subscriptions to professional societies, etc. On the average each technologist pays for one journal. Over 10 per cent of the journals he reads are borrowed from the firm's library; he gets the rest free or on private loan, or borrows them from an external library or reads them there.

Here, then, is the typical technologist, perhaps reading his personal copy of a journal at home, perhaps looking through the firm's copy at work, these journals having come to him as a matter of routine. He is looking at them, not for anything immediately useful, but for ideas and stimulation. Now take a closer look at what he is reading.

WHO READS WHAT

Just as there are 'popular' newspapers and 'quality' newspapers, so there are scientific and technical journals which appeal to different types and different numbers of people, and the simpler, or less technical, the content the more people read the journal. To extend the analogy, there are a large number of very specialized journals which, like local newspapers, are aimed at a circumscribed readership. As is only to be expected, the number of technologists choosing to read such different publications varies very greatly.

For example, at the time of the survey in the electrical and electronics industries half of more than 1,000 technologists said they had



... appeal to different types of people ...

read or scanned one particular journal, *Wireless World*. At the other extreme, there were a number of journals which were mentioned by only one person apiece; and within a list of the 98 main journals likely to be relevant to the work of these technologists—the list compiled in consultation with research and professional organizations—15 journals were not regularly seen by any of the respondents.

At least 600 journals written in English are in one way or another appropriate to the electrical and electronics industries; and 300 titles were mentioned in answers to questions. The interviewers asked three

questions to discover how many technologists read or looked at each journal:

1. 'Can you list for me the journals which you see regularly?'
2. 'Here is a list of journals which apply to the electrical industry and the general engineering field. Would you look down it and mark off the ones in which you have read or scanned at least one article during the last year?'
3. 'Could you say which journals or papers you would have regularly if you did not have more than three?'

As it turned out, the answers to the last question simply reinforced those given to the first. Here are some of the more popular titles:

SEEN REGULARLY		READ OR SCANNED IN THE LAST YEAR	
<i>Wireless World</i>	268	<i>Wireless World</i>	550
<i>Machinery</i>	198	<i>Machinery</i>	446
<i>Electronic Engineering</i>	187	<i>Electronic Engineering</i>	365
<i>Electrical Review</i>	162	<i>Electronics</i>	304
<i>Electronics</i>	127	<i>Engineer</i>	251
<i>Journal of the IEE</i>	104	<i>Mechanical Handling</i>	227
<i>Wireless Engineer</i>	66	<i>Automation</i>	195

Judging from the characteristics of the journals read or scanned most often, the most popular journal among technologists in the electrical industry would:

- * deal with electrical, control or production engineering
- * require previous knowledge of the subject, but no academic qualifications
- * appear at least once a month
- * have between 40 and 100 pages of text and a large number of advertisements
- * avoid reports of fundamental work
- * contain review articles, abstracts or book reviews, notes on new equipment, news of appointments, meetings, etc., and job advertisements.

Of course, some of these characteristics may be the result, not the cause, of a journal being widely read. For example, a journal may

attract a large number of advertisements because the advertisers realize that it is a popular one.

These same specifications apply even when one considers the management, research and production groups separately, except that the management and production technologists like their reading matter to be somewhat easier than do the research workers, who as a whole are not so opposed to the latter publications (more than 100 pages) or to reports of fundamental work. The only group of technologists which actually prefers fundamental treatment contains those who claim to read more than 20 journals in all.

One of the measures taken by the learned and professional societies to ease the burden of technical literature on the working technologist and scientist is the publication of abstracts. These are brief summaries of papers culled from a large number of journals and classified under subject headings. However, only a minority of technologists (38 per cent) in the electrical and electronics industries are aware of abstracts in their special field—and even fewer claim to make use of them (31 per cent). Only one technologist in five could name abstracts which he had consulted in the previous three months. Even among research workers, half did not know of abstracts in their field; 28 per cent were able to identify abstracts they had used recently, compared with only 13 per cent among production supervisors.

The technologist who uses abstracts tends to be a qualified man who is naturally interested in rather difficult journals dealing with fundamental science; who reads a lot of journals and is prepared to go outside the strict confines of his subject; and who relatively often turns to the literature as the first step in solving a problem.

Of course, technical literature is by no means the only medium through which scientists can obtain information. For example, many technologists (40 per cent) attend meetings of technical or scientific societies. But they more often attract the qualified man; 62 per cent with some academic or technical qualifications claim to attend meetings, but only a quarter of the unqualified. Quite a number of those going to meetings (52 per cent) are dissatisfied to the extent of saying that they obtained no significant information from them.

HOW MUCH THEY READ—AND HOW WELL

So far, this booklet has examined what the technologist expects to get out of technical literature and what kinds of journal come closest to meeting his requirements as he sees them. But how many journals does he read and how well does he read them?

On the average, the electrical/electronics technologist sees 4.7 journals regularly and reads or scans 7.8 different publications during one year. But there are wide variations.

One technologist in ten does not see any journals regularly and, when asked, says he does not want to see any. At the time of the survey a few technologists (6 per cent) had not read or scanned any article during the previous twelve months in any of the hundred journals deemed most appropriate by the experts.

Two-thirds of all technologists see regularly five journals or fewer. On the other hand, a few see 14 or more—and one of those interviewed claimed to see no less than 46.

The average number of journals seen regularly by the under-25's is 2.6. As a technologist grows older and more experienced in his job, he reads more journals. However, after more than ten years with one firm, or beyond the age of 45, the numbers tend to level off again. Apart from this effect, increased experience in the job means, by and large, an increase in the number of journals read.

Managers usually see more journals than do their research staff, and more than those engaged in production supervision.

	<i>Per cent of sample</i>	<i>Mean number of journals seen regularly</i>
Management	13	6.4
Research	43	5.4
Production supervision	40	3.5
Other	4	4.5
	<hr/>	<hr/>
Total	100	4.7

Professional training naturally has an effect on reading habits: just how marked can be seen from the following table.

	<i>Per cent of sample</i>	<i>Mean number of journals seen regularly</i>
Higher degree	2	11.5
First degree	15	6.1
Technical qualification only	22	5.8
No qualification	61	3.7
	<hr/>	<hr/>
Total	100	4.7

If one could watch 100 technologists, each picking up one of the journals he sees regularly, one would see 58 of them sitting down and reading. (In this survey 'reading' strictly means 'reading on the average one or more articles per issue'.) Thirty-three of them would be scanning their journals, three simply looking at the advertisements and six studying the index.

It is worth noting that 11 of these 100 technologists would be perusing journals which they had bought, and nine others would be looking at journals which they receive as a right of membership of one institution or another. Having paid for their journals, these technologists apparently seek their money's worth; at any rate seventeen of the twenty read rather than scan.

One might be tempted to argue that technologists who claim to see large numbers of journals are in fact more inclined to skim through them than their less omnivorous colleagues are. Actually, the effect is very small. An analysis of the figures shows that seeing a large number of journals means reading a large number of articles. There is no reason to think that the grasshopper mind is at work.

The figures so far presented in this section give a rather detailed picture of how much reading technologists do. Before the reader misses the wood on account of the trees let him re-direct his attention to the rather large number of individuals who do not read much at all. There is one figure which perhaps conveys more vividly than any other the level of interest in the literature shown by technologists. When they were asked

'Can you recall the most recent article in any paper, journal, pamphlet, etc., that was of direct use or special interest to you?'

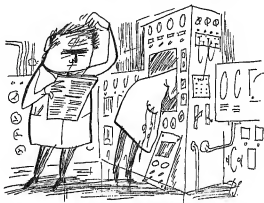
nearly a third (29 per cent) could not.

The technologist does not take his reading very seriously. The journals which come his way he will take home with him; he will look through them and read the occasional article which interests him. But he does not think it has much to do with the job in hand. There is little feeling here of technologists in allied fields urgently communicating with one another through the printed word to speed the wheels of industry, to share new horizons in science, to get things done.

Does reading matter anyway? It could be argued that many technologists are engaged on types of work for which no appropriate literature exists; or that if it does exist it does not help them to do their job noticeably better; or that the literature addicts are somewhat dilettante and like to browse rather than get on and earn their salaries.

The difficulty in disposing of these objections is that there is no sure way of determining the productivity of a technologist. Nor is it possible to generalize very emphatically about a group of people doing vastly different kinds of work. Nevertheless, the survey data provide very useful evidence. It is a matter of correlating with intensity of reading those personal characteristics which everyone would agree are marks of a high-powered, hard-working man.

A young qualified man currently engaged on a research problem, who has put chance experiences to use, who is well aware that new ideas come from outside sources, and who goes to meetings, conferences



... a research problem ...

and courses—he is a man who sees many journals, can recall useful articles, would turn at once to the literature for information and as a first step in solving a problem, and is familiar with the abstracts relevant to his work.

Cautious statistical analysis of the evidence suggests that the habit of referring to literature in solving a problem is not simply an incidental characteristic of the good technologist. It is not merely a result of the fact that the good technologist is more likely to be given the type of problem which calls for reference to literature. On the contrary, it appears to be one of the characteristics which makes a technologist good.



... reference to literature

Further evidence of the value of reading widely is found in the analysis of how a technologist's attention is drawn to an article which is useful or of special interest for him. Six times out of ten he finds it for himself, more often by chance than as a result of a systematic search through the literature. Only once in ten times is he led to it by published references or abstracts.

In three cases in ten the useful article is recommended to him personally by someone else. So it seems to follow incidentally that personal

contacts between technologists should be encouraged as part of the business of encouraging the flow of technical information, both by word of mouth and by exchange of references to literature.

In the light of these findings, which support the traditional view that literature ought to be important in the technologist's work, it appears that the actual level of interest shown by technologists is a matter for concern. Is this the fault of the technologist himself, and of his training? Or is there anything which prevents him from reading?

Previous studies have shown an inadequacy of library services in British industry. Yet fewer than one technologist in five has any complaint to make in answer to the question

'Can you always get from the libraries all the literature you want?'

It seems that the technologist is very easily satisfied in the matter of literature. One technologist in six never goes near a library and it is estimated in firms that have a library that less than half the technologists use it.

The same sort of thing applies to information officers. Most technologists (71 per cent) say they have no difficulty in getting any sort of information they want; this in spite of the fact that less than half of them have the help of any person responsible for handling their information services or drawing their attention to appropriate publications, and only 12 per cent have the services of a qualified information officer or librarian. Of course, not all technologists like to delegate their searches of the literature, even if an information officer is available.

Has the technologist enough time to read? Those who see more journals do not have to skimp their reading: they both read more and scan more. It looks therefore as though the time available for reading does not limit the time spent reading. The fact that most technical reading is done at home indicates, not that there is little time for reading at work, but that the technologist—or perhaps his manager—does not regard reading as part of the job in hand.

Nor can it be said that the technologist is unfamiliar with the literature or with its function as a means of reference. Reference books and advertisements in trade journals are cited as sources of useful information by more technologists than any other media. There is, however, some slight evidence that technologists may be deterred from reading by the cost of journals when they have to pay for them

themselves: those who read little pay for a greater percentage of their literature than those who read much.

How much blame for the neglect of literature by technologists can be laid upon those who produce the journals themselves? Is the technologist right who says that there is no point in consulting the literature because he would not readily find in it solutions to the type of problem with which he has to deal? Or is the literature in fact well suited to his needs if only he would wake up to it? Or, again, is it misunderstanding the function of the literature to think that it does or should cater for the little local difficulties of the man on the job?

Only by studying a number of cases, to see what information a technologist could have acquired readily in a specific situation if he had sought for it, could these questions be answered. Then it might be possible to criticize constructively the literature itself. Meanwhile editors and librarians may draw their own conclusions from the substance of the present survey—noting in particular the fact that technologists use their literature for news rather than for reference.

SUMMARY OF FINDINGS

In 1956 the Social Survey, on behalf of DSIR, interviewed 1,082 *technologists* (as defined on page 14) to discover what use they make of technical literature. The investigation was confined to the electrical and electronics industries which are known to consume a large amount of this literature, and the following findings apply directly only to those industries, though their implications are wider.

*Reading matters

Making good use of technical literature is one of the marks of a well-trained and active technologist.

When a technologist finds a useful or interesting article, it is usually during his own reading and more often by chance than by design.

Written material is acknowledged by technologists to be their most important source of ideas and stimulation.

*Little interest

Most technologists regularly see five journals or less.

Less than half of those whose firms have libraries, use them.

One in six uses no library.

More than a third do not acknowledge ever having obtained useful information from an article or a trade journal; the corresponding number for learned society journals is 61 per cent.

*Not part of the job

Technologists read for news and stimulation rather than for assistance in their work.

Few regard consulting literature as a necessary step in tackling a problem.

Most reading is done at home.

Few technologists make use of abstracts.

*Any excuses?

Library facilities and information services, poor though they often are, cannot be blamed for the low level of interest shown by the technologist. Lack of time for reading, or ignorance of the literature, does not explain it, either.

The cost of journals may deter some technologists from reading more.

Whether or not the literature itself is well suited to the needs of the technologist is a question which cannot be answered on the basis of this survey. It appears, however, that much of the explanation must be sought within the technologist himself, and in his training.

QUESTIONS ARISING

These questions arise in all industries, not merely those selected for study.

For technologists

Do you agree that for a technologist to see regularly five journals or fewer is not a very impressive record?

Have you, in your own experience, found that the best technologists are, by and large, quite knowledgeable about technical literature?

Do you keep an index of useful literature—for your own sake and for others who may ask your advice?

If you think there is little literature appropriate to your particular work, have you ever consulted a librarian or information officer?

For managers

Do you think that your technology can benefit by knowledge of work by other organizations in the same line of business or research? If so, what are your library services like and what use is made of them?

Are you satisfied that your technologists never waste time discovering, by trial and error, facts and procedures which could have been found in the technical literature?

Do you encourage your technologists to read widely, perhaps by setting aside a part of their working day for that purpose? Or do you dislike seeing them comfortably immersed in periodicals and think it a waste of time? Or do you not care, either way?

Do you encourage informal contacts between the technologists who work for you, and with technologists outside?

For librarians and information officers

If your technological 'clients' seem quite satisfied with the service

you provide, is it because you are giving them all the literature that would help them in their work, or because they are really not interested?

How many of them ask you for assistance in particular problems? How many of them spend any length of time in the library? How many keep well away from you and your literature?

Do you try to find new ways of encouraging a closer interest in the literature?

In particular, do you think many of your clients are sufficiently familiar with the abstracts that are available?

For technical teachers

Do you acknowledge the conclusion in the survey that 'literacy' is important for technologists, in the sense that they should be eager and able to read technical literature with ease and familiarity?

If so, do you make a point, when training technologists, of showing them how to use a library and introducing them to the range of journals and abstracts in their subject, as well as the text-books?

Should you do more to persuade them to regard the literature as a source of immediately useful information as well as of news and stimulation?

When showing them how to go about tackling a 'real life' problem, do you advise them to consult the literature at an early stage?

For editors

Are you satisfied with your present circulation, having regard to the importance of the information you purvey?

Do you imagine that your journal often lies quite unopened on the shelves of a technical library? Is there anything you can do to improve matters or do you regard it as a case of 'pearls before swine'?

Many readers want only to skim through and make sure they are not missing anything vital to them: are your contents lists, indices, summaries and layout suited to this purpose?

Do the findings of the survey, that most technical reading is done at home and that technologists today read for news rather than guidance in their work, incline you to reconsider your editorial policy?

